

## IN THE CLAIMS

The following is a complete list of the claims now pending; this listing replaces all earlier versions and listings of the claims.

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1. ~~(Currently Amended)~~ A method of classifying a digital image, said method comprising the steps of:

segmenting ~~said the digital~~ image into substantially homogeneous regions;

processing ~~said the~~ regions to provide a region adjacency graph for the digital image, ~~said the~~ region adjacency graph representing spatial adjacency ~~adjacencies~~ between ~~said the~~ regions, wherein at least one of the regions of the region adjacency graph is associated with at least one of a plurality of predetermined semantic labels;

~~analysing said~~ analyzing the region adjacency graph for to identify predetermined patterns of the semantic labels associated with the regions; and

~~classifying said digital image as~~ assigning one of a plurality of predetermined stereotypes to the digital image according to each identified pattern of the semantic labels associated with the regions, such that the assigned stereotype represents a classification of the digital image.

2. (Cancelled)

3. (Currently Amended) The method according to claim 1, wherein ~~said the~~ digital image is classified on the basis of a size of one or more regions of ~~said the~~ digital image.

4. ~~(Currently Amended) The method according to claim 3, wherein~~  
~~said the~~ digital image is classified on the basis of an adjacency of ~~said the~~ regions.

5. (Currently Amended) The method according to claim 1, wherein  
~~said the~~ digital image is classified on the basis of semantic label content of ~~said the~~ region  
adjacency graph.

6. (Currently Amended) The method according to claim 1, wherein  
~~said the~~ digital image is classified on the basis of a mean ~~colour~~ color of one or more  
regions of ~~said the~~ digital image.

7. (Currently Amended) The method according to claim 1, wherein  
~~said the~~ plurality of stereotypes are stored in an association lookup table.

8. (Currently Amended) The method according to claim 1, wherein  
~~said the~~ stereotypes are represented in a hierarchal arrangement.

9. (Currently Amended) The method according to claim 7, wherein  
each of ~~said the~~ stereotypes has a hierarchical path.

10. (Currently Amended) The method according to claim 1, wherein  
~~said the~~ region adjacency graph is provided by ~~analysing~~ analyzing contextual data  
associated with one or more regions of ~~said the~~ digital image.

~~11. (Currently Amended) The method according to claim 10, wherein~~  
~~said the contextual data comprises information generated by one or more separate sources~~  
~~of said the information.~~

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12. (Currently Amended) The method according to claim 11, wherein a  
corresponding portion of said the contextual data is obtained from a temporal region of  
interest for each source of said the information.

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13. (Currently Amended) The method according to claim ~~12~~ 1, further  
comprising the step of providing metadata associated with said the digital image, wherein  
said the metadata includes said the stereotypes of said the digital image.

14. (Currently Amended) The method according to claim 13, wherein  
said the metadata includes a hierarchical path associated with said the respective stereotype  
of each digital image.

15. (Currently Amended) The method according to claim 14, wherein  
said the hierarchical path is stored with a respective stereotype as a metadata object which  
is associated with a respective image object.

16. (Currently Amended) The method according to claim 14, wherein  
said the hierarchical path is stored as a referenced lookup table.

17. (Currently Amended) The method according to claim 1, wherein ~~said the~~ digital image is stored in a database of digital images and wherein ~~said the~~ classification can be used to retrieve ~~said the~~ digital image from ~~said the~~ database.

18. (Currently Amended) An apparatus for classifying a digital image, said apparatus comprising:

segmenting means for segmenting ~~said the~~ image into substantially homogeneous regions;

processing means for processing ~~said the~~ regions to provide a region adjacency graph for the digital image, ~~said the~~ region adjacency graph representing adjacencies spatial adjacency between said the regions, wherein at least one of the regions of the region adjacency graph is associated with at least one of a plurality of predetermined semantic labels;

analysing analyzing means for ~~analysing analyzing~~ ~~said the~~ region adjacency graph ~~for to~~ identify predetermined patterns of the semantic labels associated with the regions; and

classification assigning means for ~~classifying said digital image as~~ assigning one of a plurality of predetermined stereotypes to the digital image according to each identified pattern of the semantic labels associated with the regions, such that the assigned stereotype represents a classification of the digital image.

19. (Cancelled)

20. (Currently Amended) The apparatus according to claim 18, wherein ~~said the~~ digital image is classified on the basis of a size of one or more regions of ~~said the~~ digital image.

21. (Currently Amended) The apparatus according to claim 20, wherein ~~said the~~ digital image is classified on the basis of an adjacency of ~~said the~~ regions.

22. (Currently Amended) The apparatus according to claim 18, wherein ~~said the~~ digital image is classified on the basis of semantic label content of ~~said the~~ region adjacency graph.

23. (Currently Amended) The apparatus according to claim 18, wherein ~~said the~~ digital image is classified on the basis of a mean ~~colour~~ color of one or more regions of ~~said the~~ digital image.

24. (Currently Amended) The apparatus according to claim 18, wherein ~~said the~~ plurality of stereotypes are stored in an association lookup table.

25. (Currently Amended) The apparatus according to claim 18, wherein ~~said the~~ stereotypes are represented in a hierarchal arrangement.

26. (Currently Amended) The apparatus according to claim 24, wherein each of ~~said the~~ stereotypes has a hierarchical path.

27. ~~(Currently Amended) The apparatus according to claim 18, wherein~~  
~~said the~~ region adjacency graph is provided by ~~analysing~~ analyzing contextual data  
associated with one or more regions of ~~said the~~ digital image.

28. (Currently Amended) The apparatus according to claim 27, wherein  
~~said the~~ contextual data comprises information generated by one or more separate sources  
of ~~said the~~ information.

29. (Currently Amended) The apparatus according to claim 28, wherein  
a corresponding portion of ~~said the~~ contextual data is obtained from a temporal region of  
interest for each source of ~~said the~~ information.

30. (Currently Amended) The apparatus according to claim 18, further  
comprising metadata providing means for providing metadata associated with each digital  
image, wherein ~~said the~~ metadata includes ~~said the~~ stereotypes of each digital image.

31. (Currently Amended) The apparatus according to claim 30, wherein  
~~said the~~ metadata includes a hierarchical path associated with ~~said the~~ respective  
stereotypes of each digital image.

32. (Currently Amended) The apparatus according to claim 31, wherein  
~~said the~~ hierarchical path is stored with a respective stereotype as a metadata object which  
is associated with a respective image object.

33. (Currently Amended) The apparatus according to claim 31, wherein ~~said~~ the hierarchical path is stored as a referenced lookup table.

34. (Currently Amended) The apparatus according to claim 18, wherein ~~said~~ the digital image is stored in a database of digital images and wherein ~~said~~ the classification can be used to retrieve ~~said~~ the digital image from ~~said~~ the database.

35. (Currently Amended) A computer program product comprising a computer readable medium having a computer program recorded for classifying a digital image, said computer program product comprising:

- a segmenting module, for segmenting ~~said~~ the digital image into substantially homogeneous regions;
- a processing module, for processing ~~said~~ the regions to provide a region adjacency graph for the digital image, ~~said~~ the region adjacency graph representing ~~adjacencies~~ spatial adjacency between ~~said~~ the regions, wherein at least one of the regions of the region adjacency graph is associated with at least one of a plurality of predetermined semantic labels;
- ~~analysing~~ an analyzing module, for ~~analysing~~ analyzing ~~the~~ the region adjacency graph for to identify predetermined patterns of the semantic labels associated with the regions; and
- ~~classification~~ an assigning module, for ~~classifying~~ as assigning ~~said~~ one of a plurality of predetermined stereotypes to the digital image according to each identified pattern of the semantic labels associated with the regions such that the assigned stereotype represents a classification of the digital image.

36. (Cancelled)

37. (Currently Amended) The computer program product according to claim 35, wherein ~~said~~ the digital image is classified on the basis of a size of one or more regions of ~~said~~ the digital image.

38. (Currently Amended) The computer program product according to claim 37, wherein ~~said~~ the digital image is classified on the basis of an adjacency of ~~said~~ the regions.

39. (Currently Amended) The computer program product according to claim 35, wherein ~~said~~ the digital image is classified on the basis of semantic label content of ~~said~~ the region adjacency graph.

40. (Currently Amended) The computer program product according to claim 35, wherein ~~said~~ the digital image is classified on the basis of a mean ~~colour~~ color of one or more regions of ~~said~~ the digital image.

41. (Currently Amended) The computer program product according to claim 35, wherein ~~said~~ the plurality of stereotypes are stored in an association lookup table.

42. (Currently Amended) The computer program product according to claim 35, wherein ~~said~~ the stereotypes are represented in a hierarchal arrangement.



~~43. (Currently Amended) The computer program product according to claim 42 41, wherein each of ~~said~~ the stereotypes has a hierarchical path.~~

44. (Currently Amended) The computer program product according to claim 43 35, wherein ~~said~~ the region adjacency graph is provided by ~~analysing~~ analyzing contextual data associated with one or more regions of ~~said~~ the digital image.

45. (Currently Amended) The computer program product according to claim 44, wherein ~~said~~ the contextual data comprises information generated by one or more separate sources of ~~said~~ the information.

46. (Currently Amended) The computer program product according to claim 45, wherein a corresponding portion of ~~said~~ the contextual data is obtained from a temporal region of interest for each source of ~~said~~ the information.

47. (Currently Amended) The computer program product according to claim 46 35 further comprising a metadata providing module for providing metadata associated with each digital image, wherein ~~said~~ the metadata includes ~~said~~ the stereotypes of each digital image.

48. (Currently Amended) The computer program product according to claim 47, wherein ~~said~~ the metadata includes a hierarchical path associated with ~~said~~ the respective stereotype of each digital image.

49. (Currently Amended) The computer program product according to claim 48, wherein ~~said~~ the hierarchical path is stored with a respective stereotype as a metadata object which is associated with a respective image object.

50. (Currently Amended) The computer program product according to claim 48, wherein ~~said~~ the hierarchical path is stored as a referenced lookup table.

51. (Currently Amended) The computer program product according to claim ~~50~~ 35, wherein ~~said~~ the digital image is stored in a database of digital images and wherein ~~said~~ the classification can be used to retrieve ~~said~~ the digital image from ~~said~~ the database.

52. (Currently Amended) A method of classifying a digital image signal, said method comprising the steps of:

- segmenting ~~said~~ the image into substantially homogeneous regions;
- processing ~~said~~ the regions to provide a labelled region adjacency graph for the digital image, the region adjacency graph comprising at least one semantic label and representing at least part of the digital image signal spatial adjacency between said the regions, wherein at least one of the regions of the region adjacency graph is associated with at least one of a plurality of predetermined semantic labels;
- providing a plurality of predetermined stereotype classifications, for each of the stereotype classifications being associated with at least one a plurality of predetermined pattern patterns, wherein each ~~said~~ the pattern comprises:

(i) a set of labelled regions; or

(ii) a set of labelled regions and corresponding adjacency  
information;

~~analysing said~~ analyzing the labelled region adjacency graph for to  
identify the presence of predetermined patterns of labelled regions; and

for each pattern of labelled regions identified as matching at least  
one of the predetermined patterns, selecting from said the plurality of classifications a  
stereotype ~~classification~~ classifications based on the matching; and

assigning the selected stereotype classification to the digital image as  
a classification for of the digital image.

53. (Cancelled)

54. (Currently Amended) The method according to claim 52, wherein  
~~said the~~ digital image is classified on the basis of semantic label content of ~~said the~~ region  
adjacency graph.

55. (Previously Amended) The method according to claim 52, wherein  
a stereotype is assigned to the digital image signal on the basis of the adjacency of a set of  
regions with specified labels in the labelled region adjacency graph.

56. (Previously Amended) The method according to claim 52, wherein  
a stereotype is assigned to the digital image signal on the basis of the size of one or more  
regions with a specified label in the labelled region adjacency graph.

57. (Currently Amended) The method according to claim 52, wherein a stereotype is assigned to the digital image signal on the basis of a label which represents ~~the~~ a mean colour color of one or more regions in the labelled region adjacency graph.

58. (Currently Amended) The method according to claim 52, wherein a stereotype is assigned to the digital image signal on the basis of a label which represents ~~the~~ a mean colour color texture of one or more regions in the labelled region adjacency graph.

59. (Currently Amended) The method according to claim 52, wherein ~~said~~ the plurality of stereotypes are stored in an association lookup table.

60. (Currently Amended) The method according to claim 52, wherein ~~said~~ the stereotypes are represented in an hierarchical arrangement.

61. (Currently Amended) The method according to claim 60, wherein each of ~~said~~ the stereotypes has a hierarchical path.

62. (Currently Amended) The method according to claims 52, wherein each of ~~said~~ the stereotypes is represented by one of a plurality of icons.

63. (Currently Amended) The method according to claims 52, where ~~said~~ the digital image is stored in a database of digital images and wherein ~~said~~ the digital image can be retrieved from ~~said~~ the database using a keyword representing a stereotype.

64. (Currently Amended) The method according to claim 52, where ~~said~~ the digital image is stored in a database of digital images and wherein ~~said~~ the digital image can be retrieved from ~~said~~ the database using an icon representing a stereotype.

65. (Currently Amended) The method according to claim 52, where ~~said~~ the digital image is stored in a database of digital images and wherein ~~said~~ the digital image can be retrieved from ~~said~~ the database using either a keyword or icon representing a ~~generalisation~~ generalization, or broader version, of a stereotype.

66. (Currently Amended) An apparatus for classifying a digital image signal, said apparatus comprising:

- segmenting means for segmenting ~~said~~ the digital image into substantially homogeneous regions;
- processing means for processing ~~said~~ the regions to provide a labelled region adjacency graph ~~comprising at least one semantic label and representing for at least part of the digital signal, wherein at least one of the regions of the region adjacency graph being associated with at least one of a plurality of predetermined semantic labels;~~
- classification providing means for providing a plurality of predetermined stereotype classifications, each of the stereotype classifications being associated with at least one predetermined ~~for each of a plurality of patterns pattern,~~ wherein each ~~said~~ pattern comprises:

(i) a set of labelled regions; or

(ii) a set of labelled regions and corresponding adjacency

information; and

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~~analysing~~ analyzing means for ~~analysing said~~ analyzing the labelled region adjacency graph ~~for to identify~~ the presence of ~~predetermined~~ patterns of labelled regions, wherein for each pattern of labelled regions identified as matching at least one of the predetermined patterns, ~~said the~~ classification providing means ~~provides assigns a one of the predetermined~~ stereotype classifications to the digital image as a classification for of the digital image ~~selecting from said plurality of classification.~~

67. (Cancelled)

68. (Previously Amended) The apparatus according to claim 66, wherein a stereotype is assigned to the digital image signal on the basis of the semantic label consent of one or more regions in the labelled region adjacency graph.

69. (Previously Amended) The apparatus according to claim 66, wherein a stereotype is assigned to the digital image signal on the basis of the adjacency of a set of regions with specified labels in the labelled region adjacency graph.

70. (Previously Amended) The apparatus according to claim 66, wherein a stereotype is assigned to the digital image signal on the basis of the size of one or more regions with a specified label in the labelled region adjacency graph.

71. (Currently Amended) The apparatus according to claim 66, wherein a stereotype is assigned to the digital image signal on the basis of a label which represents the a mean colour color of one or more regions in the labelled region adjacency graph.

72. (Currently Amended) The apparatus according to claim 66, wherein a stereotype is assigned to the digital image signal on the basis of a label which represents the a mean colour color texture of one or more regions in the labelled region adjacency graph.

73. (Currently Amended) The apparatus according to claim 66, wherein said the plurality of stereotypes are stored in an association lookup table.

74. (Currently Amended) The apparatus according to claim 66, wherein said the stereotypes are represented in an hierarchical arrangement.

75. (Currently Amended) The apparatus according to claim 74, wherein each of said the stereotypes has a hierarchical path.

76. (Currently Amended) The apparatus according to claim 66, wherein each of said the stereotypes is represented by one of a plurality of icons.

77. (Currently Amended) The apparatus according to claim 66, where said the digital image is stored in a database of digital images and wherein said the digital image can be retrieved from said the database using a keyword representing a stereotype.

78. (Currently Amended) The apparatus according to claim 66, where ~~said the~~ digital image is stored in a database of digital images and wherein ~~said the~~ digital image can be retrieved from ~~said the~~ database using a icon representing a stereotype.

79. (Currently Amended) The apparatus according to claim 66, where ~~said the~~ digital image is stored in a database of digital images and wherein ~~said the~~ image can be retrieved from ~~said the~~ database using either a keyword or icon representing a ~~generalisation~~ generalization, or broader version, of a stereotype.

80. (Currently Amended) A computer program product comprising a computer readable medium having a computer program recorded for classifying a digital image signal, said computer program product comprising:

a segmenting module for segmenting ~~said the digital~~ image into substantially homogeneous regions;

a processing module for processing ~~said the~~ regions to provide a labelled region adjacency graph ~~comprising at least one semantic label and representing at least part of the digital image signal, the region adjacency graph representing spatial adjacency between the regions, wherein at least one of the regions of the region adjacency graph is associated with at least one of a plurality of predetermined semantic labels;~~

a classification providing module for providing a plurality of predetermined stereotype classifications, ~~for each of a the stereotype classifications being associated with at least one plurality of predetermined patterns, wherein each said pattern comprises:~~

(i) a set of labelled regions; or



(ii) a set of labelled regions and corresponding adjacency

information; and

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~~analysing an analyzing module for analysing said analyzing the~~  
labelled region adjacency graph ~~for to identify~~ the presence of ~~predetermined~~ patterns of  
labelled regions, wherein for each pattern of labelled regions identified as matching at least  
one of the predetermined patterns, ~~said the~~ classification providing means ~~provides~~ assigns  
one of the predetermined a stereotype classifications to the digital image as a for  
classification of the digital image ~~selecting from said plurality of stereotype classifications.~~

81. (Cancelled)

*81*  
82. (Previously Amended) The computer program product according to  
claim 80, wherein a stereotype is assigned to the digital image signal on the basis of the  
semantic label content of one or more regions in the labelled region adjacency graph.

83. (Previously Amended) The computer program product according to  
claim 80, wherein a stereotype is assigned to the digital image signal on the basis of the  
adjacency of a set of regions with specified labels in the labelled region adjacency graph.

84. (Previously Amended) The computer program product according to  
claim 80, wherein a stereotype is assigned to the digital image signal on the basis of the  
size of one or more regions with a specified label in the labelled region adjacency graph.

85. ~~(Currently Amended) The computer program product according to claim 80, wherein a stereotype is assigned to the digital image signal on the basis of a label which represents ~~the~~ a mean ~~colour~~ color of one or more regions in the labelled region adjacency graph.~~

86. (Currently Amended) The computer program product according to claim 80, wherein a stereotype is assigned to the digital image signal on the basis of a label which represents ~~the~~ a mean ~~colour~~ color texture of one or more regions in the labelled region adjacency graph.

87. (Currently Amended) The computer program product according to claim 80, wherein ~~said~~ the plurality of stereotypes are stored in an association lookup table.

88. (Currently Amended) The computer program product according to claim 80, wherein; ~~said~~ the stereotypes are represented in an hierarchical arrangement.

89. (Currently Amended) The computer program product according to claim 88, wherein each of ~~said~~ the stereotypes has a hierarchical path.

90. (Currently Amended) ~~The computer program product according to claim 80, wherein each of~~ said the stereotypes is represented by one of a plurality of icons.

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91. (Currently Amended) The computer program product according to claim 80, wherein ~~said~~ the digital image is stored in a database of digital images and wherein ~~said~~ the digital image can be retrieved using a keyword representing a stereotype.

92. (Currently Amended) The computer program product according to claim 80, wherein ~~said~~ the digital image is stored in a database of digital images and wherein ~~said~~ the digital image can be retrieved using a icon representing a stereotype.

93. (Currently Amended) The computer program product according to claim 80, wherein ~~said~~ the digital image is stored in a database of digital images and wherein ~~said~~ the digital image can be retrieved from ~~said~~ the database using either a keyword or icon representing a ~~generalisation~~ generalization, or broader version, of a stereotype.